

Appl. No. 10/667,260

Amndt. dated July 26, 2004

Reply to Office action of March 25, 2004

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-30 are now in the application. Claims 1, 7, and 14 have been amended. New Claims 20-30 have been added.

In item 3 on page 2 of the above-identified Office action, the drawings are objected to under 37 CFR 1.83(a). More specifically, the Examiner stated that "the double chamber having parallel regions" must be shown or the features canceled from the claims.

A new Fig. 17 has been added in order to show a double chamber with parallel regions. Fig. 17 illustrates the double chamber only in a schematic manner and thus no new matter has been added to the application. The Brief Description of the Drawings has been amended in order to mention new Fig. 17.

In item 5 on page 2 of the Office action, claim 14 has been rejected as being indefinite under 35 U.S.C. § 112, second paragraph. More specifically, the Examiner stated that there is insufficient antecedent basis for the "said integrated lens." Claim 14 has been amended in order to provide proper antecedent basis for the lens.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, second paragraph. The above

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noted changes to claim 14 are provided solely for the purpose of satisfying the requirements of 35 U.S.C. § 112, second paragraph. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claims for any reason related to the statutory requirements for a patent.

In item 9 on page 3 of the Office action, claims 1-9, 11-13, and 16-19 have been rejected as being anticipated by Kragl (US 2004/0008952 A1) under 35 U.S.C. § 102.

The rejection has been noted and the claims have been amended in an effort to even more clearly define the invention of the instant application. Support for the constant diameter of the cylindrical recess in amended claim 1 may for example be found in Fig. 1. New claim 20 is a combination of the features of original claims 1, 7, and allowable 10. New claim 21 is a combination of the features of original claim 1 and allowable claim 15. Support for new claims 22-25 can be found on page 12, line 25 to page 13, line 3 of the specification. Support for new claims 26 and 27 can be found on page 6, lines 20-24 of the specification. Support for new claim 28 may be found in the drawings which show that the casting material encloses the leadframe and the transmission and/or reception element on all four sides. Support for new claim 29 can be found on page 15, lines 26 to page 16, line 7 of the specification. The features of new claims 30 are shown in Fig. 10.

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With respect to amended claim 1 it is noted that the application to Kragl does not describe the configuration of the transmission and/or reception element disposed on a leadframe. In Kragl, the transmission and/or reception element is disposed on a micro-structured substrate 1 which in turn is disposed on a printed circuit board. The use of a leadframe in comparison with the use of micro-structured substrates is cost-efficient and allows for a simple contacting of the transmission and/or reception element.

In addition to the difference that amended claim 1 provides for the use of a leadframe as a carrier, the present invention greatly differs from the device of Kragl by the feature that the recess is cylindrical and has a constant diameter over its entire length. The advantage of a cylindrical recess which has a constant diameter over its entire length, is based on the fact that a cylindrical recess it is easy to produce and has a simple design.

Kragl does not show or suggest such a cylindrical recess with a constant diameter. Most of the exemplary embodiments in Kragl show a recess that is funnel-shaped in the direction of the converter element. Furthermore, the recess in Fig. 13 extends obliquely in the lower region. In Fig. 14, the recess has an offset, wherein the converter element is disposed in a region of an enlarged diameter. In Figs. 15a and 15b, the cylindrical recess has lateral openings. Furthermore, in the

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embodiments of Figs. 13 to 15, no leadframe is used as a carrier.

Kragl neither discloses nor gives any suggestion or motivation that it could be advantageous to use a cylindrical recess having a diameter that is constant along the overall length of the recess, as defined in amended claim 1.

With respect to new claims 22 and 23, applicants note that the receiving and coupling part, which is electrically conductive or surrounded with an electrically conductive layer, is electrically connected only with ground pins of the leadframe. A shielding or protection against electromagnetic interference radiation is thus provided. The coupling of a conductive receiving and coupling part with ground pins of the leadframe allows an effective and advantageous electrical connection of the receiving and coupling part to the ground potential. Kragl does not give any suggestion for providing such a coupling. It is noted that the Examiner's reference to paragraphs 69 and 70 of the application to Kragl pertains to the production of the submount 1 and these paragraphs are therefore believed not to be relevant for amended claim 1.

New claims 24 and 25 more specifically define the feature of claim 18 by using structural features which are neither disclosed nor suggested by Kragl.

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New claims 26 and 27 clarify that the receiving and coupling part is electrically non-conductive or insulated from the leadframe at a location where the leadframe is led out of the receiving and coupling part. This ensures that the receiving and coupling part is solely connected with the ground potential.

With respect to new claim 28 it is noted that in Kragl, each embodiment of the transmission and/or reception element 2 is disposed directly on the printed circuit board 4 through the use of the submount 1. A complete casing with the casting material is not provided. This has the disadvantage that a behavior which is similar to that of a bi-metal can occur which can lead to a delamination from the substrate.

According to the embodiment of new claim 28, the converter component together with the leadframe is surrounded by the casting material on all sides. This provides an extremely robust and effective embodiment.

With respect to claim 29 it is noted that in Kragl, the optical fiber is glued into element 3. Kragl describes a pigtail embodiment but Kragl does not describe a receiving and coupling part with the optical fiber guide plugged into it.

New claim 30 defines that only the leadframe is used to contact the transmission and/or reception element. In Kragl, however, the bonding wire 5 is bonded directly on the printed

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circuit board (see e.g. Fig. 1). This results in substantial stability problems and contacting problems. The embodiment according to the present invention, however, provides a type of sub-module, wherein, within the casting material, a contacting of the transmission and/or reception element takes place exclusively via the leadframe. A contacting with the printed circuit board then takes place only via the ends of the leadframe legs.

In item 10 on page 4 of the Office action, the Examiner stated that claims 10 and 15 would be allowable if rewritten in independent form. New claim 20 is a combination of the features of original claims 1, 7, and 10 and is therefore allowable. New claim 21 is a combination of the features of original claims 1 and 15 and is therefore allowable.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1, 20, or 21. Claims 1, 20, and 21 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-30 are solicited.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Petition for extension is herewith made. Please charge the extension fee for response within a period of one month pursuant to Section 1.136(a) in the amount of \$110.00 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Please also charge the fee for the added claims in the amount of \$180.00 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Please charge any other fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

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